

### **REMARKS**

Claims 1-42 are pending. Claims 1, 12, 20, 31, and 41 are in independent form.

In the present Response, applicant has assumed that the Office action mailed October 3, 2007 is not final and that claims 39-42 also stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,101,515 to Wical et al. (hereinafter "Wical '515") and U.S. Patent No. 6,038,560 to Wical et al. (hereinafter "Wical '560"). If these assumptions are in error, applicant respectfully requests that the present response be considered *bona fide* and that a new action on the merits be issued to clarify the status of these issues.

#### ***Rejections under 35 U.S.C. § 103(a)***

Claims 1 and 20 were rejected under 35 U.S.C. § 103(a) as obvious over Wical '515 and Wical '560.

Claim 1 relates to a machine-implemented method that includes receiving, from a user, a primary term representing a first concept to be added to a machine-readable network of interrelated concepts, receiving, from the user, at least one related term associated with the primary term and representing the first concept, receiving at least one relationship between the first concept and a second concept, receiving a relationship type characterizing the at least one relationship, receiving a strength value characterizing the at least one relationship, representing the association between the primary term and the at least one related term, the at least one relationship, and the relationship type to the user on the user interface, receiving a user request to add the first concept to the machine-readable network of interrelated concepts, and in response to the user request, adding the first concept to the machine-readable network of interrelated concepts. A concept comprises a normalized semantic representation. Adding the first concept

to the machine-readable network of interrelated concepts includes adding the primary term, the related term, the relationship between the first concept and the second concept, the relationship type, and the strength value to the machine-readable network of interrelated concepts.

Claim 20 relates to one or more computer-readable media comprising program code tangibly embodied in machine-readable format and operable to cause one or machines to perform operations. The operations include activities that are related to those recited in claim 1.

The rejections of claims 1 and 20 contend that it would have been obvious for one of ordinary skill to have combined Wical '515 and Wical '560 to have arrived at the recited subject matter. Applicant respectfully disagrees for several reasons. Many of these reasons stem from a fundamental distinction between Wical '515, Wical '560 and the subject matter recited in the claims. In particular, claims 1 and 20 relate to the addition of a concept to a machine-readable network of interrelated concepts. Claims 12 and 31 relate to the updating of a concept in a network of concepts. Moreover, claims 1, 12, 20, and 31 all involve a user in these addition and/or updating processes. For example, claims 1 and 20 recite that a primary term and a related term representing a concept are to be received from a user and that the association between the primary term and the related term is to be represented to the user on a user interface. Thus, the subject matter recited in claims 1, 12, 20, and 31 can be used, by a user, to create and/or edit a network of interrelated concepts.

In contrast with the present claims, Wical '515 is primarily concerned with the classification of terminology and Wical '560 is primarily concerned with a search system that uses a knowledge base. *See, e.g., Wical '515*, entitled "Learning System for Classification of Terminology." *See also Wical '560*, entitled "Concept Knowledge Base Search and Retrieval

System.” Perhaps unsurprisingly, Wical ‘515 and Wical ‘560 thus describe many features that are not related to the creation and/or editing of networks of concepts at all.

The present rejections appear to ignore that much of Wical ‘515 and Wical ‘560 is unrelated to the adding and/or updating concepts in a network of concepts. Instead, the rejections contend that these unrelated features render the recited subject matter obvious. This is most apparent in considering the recited involvement of a user in the creation and/or editing of a network of concepts. For example, the rejections of claims 1 and 10 are understood to contend that the receipt of a user query in Wical ‘560 describes the receipt, from a user, of a related term that is associated with a primary term, where both the primary and related terms represent a concept that is to be added to a machine-readable network of interrelated concepts, as recited in claims 1 and 20. *See Office Action mailed October 3, 2007*, page 3, paragraph 8, second subparagraph (citing Wical ‘560, col. 29-32). Applicant respectfully disagrees. Wical ‘560 does not describe or suggest that the query terms are to be added to a machine-readable network of interrelated concepts, as recited of the “related terms” in claims 1 and 10. Instead, Wical ‘560 is understood to receive query terms as part of the process of searching using a knowledge base.

Wical ‘515 does not remedy these deficiencies in Wical ‘560. As discussed in a previous response, Wical ‘515 describes a system for the automated learning and classification of terminology. *See, e.g., Wical ‘515*, col. 1, line 12-14. The terminology learned and classified in Wical ‘515 are not “concepts” which, as recited, comprise “normalized semantic representations.” Instead, terminology in Wical ‘515 are individual words or phrases. *See, e.g., Wical ‘515*, col. 3, line 14-17. Indeed, Wical ‘515 itself acknowledges this distinction between concepts and terminology. For example, Wical ‘515 distinguishes between the terminology that is learned and classified and a knowledge catalog 150 that is used in these processes. Wical

'515's knowledge catalog 150 includes a set of static ontologies. *See, e.g., Wical '515*, col. 7, line 37-39. These static ontologies provide views of views, characterizations, and organizations of concepts or categories. *Id.*, col. 7, line 39-42. Wical '515's learning and classification of terminology does not change these static ontologies, which is perhaps unsurprising since the learned and classified terminology are not concepts or categories that comprise normalized semantic representations of the sort found in an ontology.

Since Wical '515 does not consider his terminology to constitute concepts or categories, such as those found in his static ontologies, one of ordinary skill would also not reasonably consider Wical '515's terminology to be concepts, as recited. Indeed, the Examiner's continued insistence on ignoring the teachings of not only applicant's specification but also the teachings of Wical '515 is both puzzling and improper. Should the Examiner persist in the contention that Wical '515's terminology are concepts, Applicant respectfully requests that the Examiner set forth with particularity why both Applicant and Wical '515 are incorrect in considering the terminology to be distinct from concepts that comprise normalized semantic representations.

Wical '515 and Wical '560 thus both fail to describe or suggest the same features in claim 1, such as receiving, from a user, a related term that is associated with a primary term, where both the primary and related terms represent a concept that is to be added to a machine-readable network of interrelated concepts. Even if Wical '515 and Wical '560 were combined, one of ordinary skill would not arrive at the recited subject matter. Accordingly, claims 1 and 20 are not obvious over Wical '515 and Wical '560. Applicant respectfully requests that the rejections of claims 1, 20, and the claims dependent therefrom be withdrawn.

Claims 12 and 31 were rejected under 35 U.S.C. § 103(a) as obvious over Wical '515 and Wical '560.

Claim 12 relates to a machine-implemented method that includes receiving, from a user, a request to edit a first concept in a machine-readable network of interrelated concepts, representing the first concept on a display for the user, receiving, from the user, at least one new relationship between the first concept and a second concept, receiving a relationship type characterizing a type of the at least one new relationship, receiving a strength value characterizing a strength of the at least one new relationship, updating the machine-readable network of interrelated concepts to reflect the at least one new relationship, the relationship type, and the strength value, and representing the updated first concept on the display for the user. Representing the first concept on a display includes displaying a collection of one or more terms that express the first concept and a description of one or more existing relationships between the first concept and other concepts in the machine-readable network of interrelated concepts. A concept comprises a normalized semantic representation. The display includes a description of the at least one new relationship.

Claim 31 relates to one or more computer-readable media comprising program code tangibly embodied in machine-readable format and operable to cause one or machines to perform operations. The operations include activities that are related to those recited in claim 12.

The rejections of claims 12 and 31 are based on the contention that requests to verify classifications of terminology in Wical '515 constitute a request to edit a concept in a network of interrelated concepts. Applicant respectfully disagrees. As discussed previously, the claims recite that a concept comprises a normalized semantic representation. The terminology that are learned and classified in Wical '515 are not such "concepts." Instead, terminology in Wical '515 are individual words or phrases. *See, e.g., Wical '515*, col. 3, line 14-17. Indeed, Wical '515 itself acknowledges this distinction between concepts and terminology. For example, Wical '515

distinguishes between the terminology that is learned and classified and a knowledge catalog 150 that is used in these processes. Wical '515's knowledge catalog 150 includes a set of static ontologies. *See, e.g., Wical '515*, col. 7, line 37-39. These static ontologies provide views of views, characterizations, and organizations of concepts or categories. *Id.*, col. 7, line 39-42. Wical '515's learning and classification of terminology does not change these static ontologies, which is perhaps unsurprising since the learned and classified terminology are not concepts or categories that comprise normalized semantic representations of the sort found in an ontology.

Since Wical '515 does not consider its terminology to constitute concepts or categories, such as those found in its static ontologies, one of ordinary skill would also not reasonably consider Wical '515's terminology to be concepts, as recited. Indeed, the Examiner's continued insistence on ignoring the teachings of not only Applicant's specification but also the teachings of Wical '515 is both puzzling and improper. Should the Examiner persist in the contention that Wical '515's terminology are concepts, Applicant respectfully requests that the Examiner set forth with particularity why both Applicant and Wical '515 are incorrect in considering the terminology to be different from concepts that comprise normalized semantic representations.

Accordingly, since Wical '515's terminology are not concepts, Wical '515 does not describe or suggest a number of features recited in claims 12 and 31. For example, Wical '515 neither describes nor suggests that a request to edit a first concept in a network of interrelated concepts be received from a user. As another example, Wical '515 neither describes nor suggests that at least one new relationship between a first concept in a network of interrelated concepts and a second concept be received.

Wical '560 does nothing to remedy these deficiencies. In this regard, as discussed above, the primary concern of Wical '560 is a search system that uses a knowledge base. According to

Wical '560, a knowledge base can include a plurality of categories and terminology that are arranged hierarchically. *See, e.g., Wical '560*, col. 2, line 54-55. A knowledge base can be augmented to include contextual information (e.g., associations). *See, e.g., Wical '560*, col. 6, line 8-13. FIG. 4 of Wical '560 illustrates an example portion of such a knowledge base. *See, e.g., Wical '560*, col. 3, line 27-28.

Wical '560 describes that its search system "permits a user to subsequently augment the classification and contextual information [of the knowledge base] through content processing of the documents input by the user." *See, e.g., Wical '560*, col. 6, line 17-20. It is this augmentation to which the rejections point as allegedly constituting the receipt of a new relationship between first and second concepts, as recited in claims 12 and 31. *See Office Action mailed October 3, 2007*, page 6, second paragraph (citing Wical '560, col. 6, line 7-21).

Applicant respectfully disagrees. In this regard, attention is respectfully directed to the description of "content processing" in Wical '560. *See Wical '560*, col. 27, line 14-col. 31, line 31. Wical '560's content processing system includes a linguistic engine 700, a structured output section 710, a theme vector processor 750, and a content indexing processor 770. *See, e.g., Wical '560*, FIG. 13; col. 27, line 15-21. This system receives a set of documents 130 as input. *See, e.g., Wical '560*, FIG. 13; col. 27, line 22-23. The content processing system takes the documents, tags them using contextual, thematic, and stylistic tags, extracts topics and content carrying words, and generates theme concepts and document theme vectors.

Based on this processing, content indexing processor 770 can develop new categories in a classification hierarchy. *See, e.g., Wical '560*, FIG. 13; col. 27, line 22-23. In particular, content indexing processor 770 uses contextual tags and thematic tags to identify head words that represent the content-carrying words in the documents. *See, e.g., Wical '560*, col. 30, line 16-27.

At least one contextual relationship for each head word is noted. *See, e.g., Wical '560*, col. 30, line 30-31. The head words and their contextual relationships are used to arrange a hierarchical structure of "new categories," which is mapped to the pre-existing categories of the classification hierarchy. *See, e.g., Wical '560*, col. 30, line 40-43. In this way, indexing processor 770 can develop new categories to extend the pre-existing categories of a knowledge base 155. *See, e.g., Wical '560*, col. 30, line 35-47.

Applicant respectfully submits that such a development of new categories in a knowledge base by Wical '560's content processing system neither describes nor suggests that a request to edit a first concept in a network of interrelated concepts be received from a user, or that at least one new relationship between a first concept in a network of interrelated concepts and a second concept be received. For example, Wical '560's content processing is not understood to involve a request to edit concepts at all. Instead, Wical '560's content processing develops new categories based the mapping of the new category hierarchy to the pre-existing category hierarchy. Moreover, there is nothing that describes or suggests that new relationships for existing concepts in a network of interrelated concepts can be received. Instead, Wical '560 appears to be solely concerned with the development of new categories.

Wical '515 and Wical '560 thus both fail to describe or suggest the same features. Accordingly, even if Wical '515 and Wical '560 were combined, one of ordinary skill would not arrive at the subject matter recited in claims 12 and 31. Accordingly, Applicant respectfully requests that the rejections of claims 12, 31, and the claims dependent therefrom be withdrawn.



Claim 41 was rejected under 35 U.S.C. § 103(a) as obvious over Wical '515 and Wical '560.

As amended, claim 41 relates to a user display that includes an identifier of a first concept in a machine-readable ontology of concepts, a list of two or more terms that represent the first concept, a list of two or more parent/child relationships between the first concept and other concepts in the ontology, a list of two or more child/parent relationships between the first concept and other concepts in the ontology, and a list of two or more lateral relationships between the first concept and other concepts in the ontology. A concept comprises a normalized semantic representation.

Wical '515 and Wical '560 neither describe nor suggest such a user display. Even if one were to consider the categories in Wical '560's knowledge base to constitute concepts, such categories are always shown in conjunction with other portions of the knowledge base in hierarchical or directed graph format. *See, e.g., Wical '560*, col. 3, line 27-28.

In contrast, claim 41 recites that, in addition to an identifier of a concept, a display includes lists of two or more terms that represent the concept, parent/child relationships, child/parent relationships, and lateral relationships. One example of such a display is shown in FIG. 4 of Applicant's specification. Such lists are believed to present significant advantages vis-à-vis Wical '560's hierarchical or directed graphs. In particular, as the number of terms representing a concept, the number of parent/child relationships, the number of child/parent relationships, and the number of lateral relationships increases, the recited display is believed to be much more adept at presenting information in a format that is accessible to a user.

Accordingly, claim 41 is not obvious over Wical '515 and Wical '560. Applicant respectfully requests that the rejections of claims 41 and 42 be withdrawn.

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It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply the \$120 extension of time fee, along with any other charges or credits, to deposit account 06-1050.

Respectfully submitted,

Date: February 4, 2008

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